

SEQUENCE LISTING

<110> Masakazu Takeuchi
Yoshimi Takai

<120> Rabconnectin-3-binding protein

<130>

<150> JP 2002-319521

<151> 2002-11-01

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<212> DNA

<213> *Homo sapiens*

5220>

<221> CDS

<222> (1), (4470)

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48

gcg ccc aca cat tgc atc tca gcg gta ctt tta aca gat gat ggg gcc
 Ala Pro Thr His Cys Ile Ser Ala Val Leu Leu Thr Asp Asp Gly Ala
 20 25 30

96

20	25	30
acg atc gta aca gga tgt cac gac gga caa ata tgt ctc tgg gat ctt	Thr Ile Val Thr Gly Cys His Asp Gly Gln Ile Cys Leu Trp Asp Leu	
	35	40
		45

144

35	40	45
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Ser Val Glu Leu Gln Ile Asn Pro Arg Ala Leu Leu Phe Gly His Thr		
50	55	60

100

50 55 60
gca tca atc act tgt ttg tct aaa gct tgt gct tcc agt gac aaa cag
Ala Ser Ile Thr Cys Leu Ser Lys Ala Cys Ala Ser Ser Asp Lys Gln

65	70	75	80
tat att gtg agt gca tct gaa agt gga gag atg tgc ctc tgg gat gtg			
Tyr Ile Val Ser Ala Ser Glu Ser Gly Glu Met Cys Leu Trp Asp Val			

agt gat ggc aga tgt att gaa ttt aca aaa tta gct tgc aca cat act	336
Ser Asp Gly Arg Cys Ile Glu Phe Thr Lys Leu Ala Cys Thr His Thr	
100 105 110	
ggc ata cag ttc tac cag ttc tct gtt ggg aat cag cga gaa gga agg	384
Gly Ile Gln Phe Tyr Gln Phe Ser Val Gly Asn Gln Arg Glu Gly Arg	
115 120 125	
ctt tta tgc cac gga cat tac cct gaa atc ctt gtt gtg gat gct acc	432
Leu Leu Cys His Gly His Tyr Pro Glu Ile Leu Val Val Asp Ala Thr	
130 135 140	
agc ctt gaa gta tta tac tcc tta gta tca aag ata tca cca gac tgg	480
Ser Leu Glu Val Leu Tyr Ser Leu Val Ser Lys Ile Ser Pro Asp Trp	
145 150 155 160	
att agc tcc atg agt att att cga tcc cac cga aca caa gag gac aca	528
Ile Ser Ser Met Ser Ile Ile Arg Ser His Arg Thr Gln Glu Asp Thr	
165 170 175	
gtg gta gca ctc tcg gtg act ggc atc ctg aag gtc tgg att gtt acc	576
Val Val Ala Leu Ser Val Thr Gly Ile Leu Lys Val Trp Ile Val Thr	
180 185 190	
tcg gaa ata agt gac atg cag gat act gag cca ata ttt gag gag gaa	624
Ser Glu Ile Ser Asp Met Gln Asp Thr Glu Pro Ile Phe Glu Glu	
195 200 205	
tcc aaa cca att tat tgt cag aat tgc caa agc atc tct ttt tgt gca	672
Ser Lys Pro Ile Tyr Cys Gln Asn Cys Gln Ser Ile Ser Phe Cys Ala	
210 215 220	
ttt aca caa agg tca ctt ttg gtt gtg tgt tcc aaa tat tgg agg gtg	720
Phe Thr Gln Arg Ser Leu Leu Val Val Cys Ser Lys Tyr Trp Arg Val	
225 230 235 240	
ttc gat gcc gga gac tat tcc ttg ttg tgt tca ggt cct agt gaa aat	768
Phe Asp Ala Gly Asp Tyr Ser Leu Leu Cys Ser Gly Pro Ser Glu Asn	
245 250 255	
gga cag aca tgg acc ggg ggg gac ttt gtc tca tca gat aaa gtc atc	816
Gly Gln Thr Trp Thr Gly Gly Asp Phe Val Ser Ser Asp Lys Val Ile	
260 265 270	
att tgg aca gaa aat ggg caa agt tat att tac aaa cta cct gcc agt	864
Ile Trp Thr Glu Asn Gly Gln Ser Tyr Ile Tyr Lys Leu Pro Ala Ser	
275 280 285	
tgc ctt cca gct agt gat tca ttc cgc agt gat gtg ggg aag gca gtt	912
Cys Leu Pro Ala Ser Asp Ser Phe Arg Ser Asp Val Gly Lys Ala Val	
290 295 300	
gaa aat tta att cct cct gta caa cat atc ctc ttg gat cga aaa gat	960
Glu Asn Leu Ile Pro Pro Val Gln His Ile Leu Leu Asp Arg Lys Asp	
305 310 315 320	
aaa gag ttg cta att tgt cct cct gtt act cgg ttc ttc tat gga tgc	1008

Lys	Glu	Leu	Leu	Ile	Cys	Pro	Pro	Val	Thr	Arg	Phe	Phe	Tyr	Gly	Cys	
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aga	gaa	tat	ttc	cat	aaa	ctg	tta	att	cag	ggt	gat	tct	tct	gga	agg	1056
Arg	Glu	Tyr	Phe	His	Lys	Leu	Leu	Ile	Gln	Gly	Asp	Ser	Ser	Gly	Arg	
		340				345			350							
ttg	aat	att	tgg	aac	ata	tca	gac	aca	gct	gat	aaa	cag	gga	agt	gaa	1104
Leu	Asn	Ile	Trp	Asn	Ile	Ser	Asp	Thr	Ala	Asp	Lys	Gln	Gly	Ser	Glu	
		355				360			365							
gaa	ggg	ctg	gca	atg	aca	act	tct	att	agt	ttg	caa	gag	gca	ttt	gat	1152
Glu	Gly	Leu	Ala	Met	Thr	Thr	Ser	Ile	Ser	Leu	Gln	Glu	Ala	Phe	Asp	
		370			375			380								
aaa	ctg	aat	cct	tgt	cct	gct	gga	att	ata	gat	cag	ctg	agt	gtg	att	1200
Lys	Leu	Asn	Pro	Cys	Pro	Ala	Gly	Ile	Ile	Asp	Gln	Leu	Ser	Val	Ile	
		385			390			395			400					
ccc	aat	agt	aat	gaa	cct	ctt	aaa	gta	act	gca	agt	gtg	tac	ata	cca	1248
Pro	Asn	Ser	Asn	Glu	Pro	Leu	Lys	Val	Thr	Ala	Ser	Val	Tyr	Ile	Pro	
		405			410			415								
gca	cat	gga	cga	ctt	gtt	tgt	ggt	cgt	gaa	gat	gga	agc	ata	gtt	att	1296
Ala	His	Gly	Arg	Leu	Val	Cys	Gly	Arg	Glu	Asp	Gly	Ser	Ile	Val	Ile	
		420			425			430								
gta	cct	gcc	aca	cag	acg	gcc	ata	gta	cag	ctg	ttg	caa	ggg	gaa	cac	1344
Val	Pro	Ala	Thr	Gln	Thr	Ala	Ile	Val	Gln	Leu	Leu	Gln	Gly	Glu	His	
		435			440			445								
atg	ctc	aga	aga	ggt	tgg	cca	cct	cac	aga	aca	ctc	cgt	ggt	cat	cgg	1392
Met	Leu	Arg	Arg	Gly	Trp	Pro	Pro	His	Arg	Thr	Leu	Arg	Gly	His	Arg	
		450			455			460								
aac	aaa	gtc	aca	tgt	ttg	cta	tat	cct	cat	cag	gtc	tca	gct	cg	tat	1440
Asn	Lys	Val	Thr	Cys	Leu	Leu	Tyr	Pro	His	Gln	Val	Ser	Ala	Arg	Tyr	
		465			470			475			480					
gat	caa	aga	tac	ctg	ata	tct	gga	ggt	gtg	gat	ttt	tca	gtc	ata	att	1488
Asp	Gln	Arg	Tyr	Leu	Ile	Ser	Gly	Gly	Val	Asp	Phe	Ser	Val	Ile	Ile	
		485			490			495								
tgg	gac	ata	ttt	tct	gga	gaa	atg	aaa	cat	atc	ttc	tgt	gtt	cat	ggt	1536
Trp	Asp	Ile	Phe	Ser	Gly	Glu	Met	Lys	His	Ile	Phe	Cys	Val	His	Gly	
		500			505			510								
ggt	gag	att	act	caa	ctt	cta	gtt	cca	cct	gaa	aac	tgt	agt	gca	aga	1584
Gly	Glu	Ile	Thr	Gln	Leu	Leu	Val	Pro	Pro	Glu	Asn	Cys	Ser	Ala	Arg	
		515			520			525								
gta	cag	cac	tgc	atc	tgc	tct	gta	gcc	agt	gac	cac	tca	gta	gga	ctt	1632
Val	Gln	His	Cys	Ile	Cys	Ser	Val	Ala	Ser	Asp	His	Ser	Val	Gly	Leu	
		530			535			540								
cta	agt	ttg	cga	gag	aaa	aaa	tgc	ata	atg	ttg	gca	tct	cgt	cac	ctt	1680
Leu	Ser	Leu	Arg	Glu	Lys	Lys	Cys	Ile	Met	Leu	Ala	Ser	Arg	His	Leu	

545	550	555	560	
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Phe Pro Ile Gln Val Ile Lys Trp Arg Pro Ser Asp Asp Tyr Leu Val				
565	570	575		
gtg ggg tgt tca gat ggt tct gtg tac gtc tgg caa atg gat act ggt				1776
Val Gly Cys Ser Asp Gly Ser Val Tyr Val Trr Gly				
580	585	590		
gca ttg gat cgt tgt gtg atg ggg ata aca gca gtt gag att cta aac				1824
Ala Leu Asp Arg Cys Val Met Gly Ile Thr Ala Val Glu Ile Leu Asn				
595	600	605		
gct tgt gat gaa gct gtt cct gct gct gat tca ctt agt cat cca				1872
Ala Cys Asp Glu Ala Val Pro Ala Ala Val Asp Ser Leu Ser His Pro				
610	615	620		
gca gtc aac cta aaa caa gct atg acg aga cgt agt ctt gct gct ctt				1920
Ala Val Asn Leu Lys Gln Ala Met Thr Arg Arg Ser Leu Ala Ala Leu				
625	630	635	640	
aaa aat atg gcc cat cat aag cta caa acc ctt gca act aac ctc ttg				1968
Lys Asn Met Ala His His Lys Leu Gln Thr Leu Ala Thr Asn Leu Leu				
645	650	655		
gct tct gag gca tct gac aag gga aat tta cct aaa tat tct cat aac				2016
Ala Ser Glu Ala Ser Asp Lys Gly Asn Leu Pro Lys Tyr Ser His Asn				
660	665	670		
tcc ctg atg gtt caa gca ata aag aca aac cta aca gac ccg gac ata				2064
Ser Leu Met Val Gln Ala Ile Lys Thr Asn Leu Thr Asp Pro Asp Ile				
675	680	685		
cat gtg cta ttc ttt gat gtg gaa gcg ttg att att caa ctc ctg act				2112
His Val Leu Phe Phe Asp Val Glu Ala Leu Ile Ile Gln Leu Leu Thr				
690	695	700		
gaa gaa gcc tct agg ccg aat act gct ctt att tcc cca gag aat ttg				2160
Glu Glu Ala Ser Arg Pro Asn Thr Ala Leu Ile Ser Pro Glu Asn Leu				
705	710	715	720	
caa aaa gca tct ggc agt tca gac aaa ggg ggc tct ttt tta act gga				2208
Gln Lys Ala Ser Gly Ser Ser Asp Lys Gly Gly Ser Phe Leu Thr Gly				
725	730	735		
aaa cga gca gca gtt ctc ttc caa caa gtg aaa gaa acg atc aaa gag				2256
Lys Arg Ala Ala Val Leu Phe Gln Gln Val Lys Glu Thr Ile Lys Glu				
740	745	750		
aac atc aag gaa cac ctc ctt gat gat gaa gag gag gat gag gag ata				2304
Asn Ile Lys Glu His Leu Leu Asp Asp Glu Glu Asp Glu Glu Ile				
755	760	765		
atg agg cag aga agg gaa gaa agt gat cct gaa tat cgg tcc agc aaa				2352
Met Arg Gln Arg Arg Glu Glu Ser Asp Pro Glu Tyr Arg Ser Ser Lys				
770	775	780		

tca aag cca ttg acc cta tta gaa tat aat tta act atg gac act gca	2400
Ser Lys Pro Leu Thr Leu Leu Glu Tyr Asn Leu Thr Met Asp Thr Ala	
785 790 795 800	
aag ctg ttt atg tcc tgc ctt cac gcc tgg ggt ttg aat gaa gta ctg	2448
Lys Leu Phe Met Ser Cys Leu His Ala Trp Gly Leu Asn Glu Val Leu	
805 810 815	
gat gaa gtt tgc ctg gat cgc ctt gga atg ctg aaa ccc cac tgc acc	2496
Asp Glu Val Cys Leu Asp Arg Leu Gly Met Leu Lys Pro His Cys Thr	
820 825 830	
gta tcg ttt ggc ctc ttg tca aga gga ggc cat atg tca ctg atg ctg	2544
Val Ser Phe Gly Leu Leu Ser Arg Gly Gly His Met Ser Leu Met Leu	
835 840 845	
ccg ggt tat aat cag cct gct tgt aaa ctg tca cat ggg aaa aca gaa	2592
Pro Gly Tyr Asn Gln Pro Ala Cys Lys Leu Ser His Gly Lys Thr Glu	
850 855 860	
gta gga agg aag ctg cca gcg tct gag gga gta gga aag gga act tac	2640
Val Gly Arg Lys Leu Pro Ala Ser Glu Gly Val Gly Lys Gly Thr Tyr	
865 870 875 880	
gga gtg tcc cgt gcc gtc acc aca cag cat ctc ctg tct atc att tct	2688
Gly Val Ser Arg Ala Val Thr Thr Gln His Leu Leu Ser Ile Ile Ser	
885 890 895	
ttg gca aat act tta atg agt atg acc aat gca act ttt att ggt gat	2736
Leu Ala Asn Thr Leu Met Ser Met Thr Asn Ala Thr Phe Ile Gly Asp	
900 905 910	
cat atg aag aag ggt cct acc agg cca cct aga cca agc acc cca gac	2784
His Met Lys Lys Gly Pro Thr Arg Pro Pro Arg Pro Ser Thr Pro Asp	
915 920 925	
ctt tct aag gca agg ggt tcc cct cca act tcc agt aat att gtg caa	2832
Leu Ser Lys Ala Arg Gly Ser Pro Pro Thr Ser Ser Asn Ile Val Gln	
930 935 940	
gga cag att aaa caa gtt gct gca cct gtc gtt tcc gct cgg tct gat	2880
Gly Gln Ile Lys Gln Val Ala Ala Pro Val Val Ser Ala Arg Ser Asp	
945 950 955 960	
gct gat cac tct ggc tct gac cct cct tct gct cct gct tta cat acc	2928
Ala Asp His Ser Gly Ser Asp Pro Pro Ser Ala Pro Ala Leu His Thr	
965 970 975	
tgt ttc tta gta aat gaa ggt tgg agt cag tta gct gct atg cac tgt	2976
Cys Phe Leu Val Asn Glu Gly Trp Ser Gln Leu Ala Ala Met His Cys	
980 985 990	
gtt atg ctg cca gac cta ctg gga ttg gat aaa ttt agg cct ccc ctt	3024
Val Met Leu Pro Asp Leu Leu Gly Leu Asp Lys Phe Arg Pro Pro Leu	
995 1000 1005	
ctg gag atg ctg gcc cga aga tgg caa gat cga tgc ttg gag gtg	3069

Leu	Glu	Met	Leu	Ala	Arg	Arg	Trp	Gln	Asp	Arg	Cys	Leu	Glu	Val	
1010					1015						1020				
aga	gaa	gcc	gca	cag	gcc	ctg	ctt	ctg	gcg	gaa	ctg	aga	aga	att	3114
Arg	Glu	Ala	Ala	Gln	Ala	Leu	Leu	Leu	Ala	Glu	Leu	Arg	Arg	Ile	
1025					1030						1035				
gag	cag	gca	ggc	agg	aag	gaa	gcc	att	gat	gcc	tgg	gct	cct	tac	3159
Glu	Gln	Ala	Gly	Arg	Lys	Glu	Ala	Ile	Asp	Ala	Trp	Ala	Pro	Tyr	
1040					1045						1050				
tta	cct	cag	tac	ata	gac	cac	gtc	ata	tca	cct	gga	gtc	aca	tca	3204
Leu	Pro	Gln	Tyr	Ile	Asp	His	Val	Ile	Ser	Pro	Gly	Val	Thr	Ser	
1055					1060						1065				
gaa	gcc	gcg	cag	act	atc	acc	acg	gct	cct	gat	gcc	tca	ggg	cct	3249
Glu	Ala	Ala	Gln	Thr	Ile	Thr	Thr	Ala	Pro	Asp	Ala	Ser	Gly	Pro	
1070					1075						1080				
gaa	gca	aaa	gtc	cag	gag	gaa	gag	cat	gac	ctt	gtt	gac	gat	gac	3294
Glu	Ala	Lys	Val	Gln	Glu	Glu	Glu	His	Asp	Leu	Val	Asp	Asp	Asp	
1085					1090						1095				
atc	acc	act	ggt	tgc	tta	tca	agt	gtc	cca	caa	atg	aaa	aaa	att	3339
Ile	Thr	Thr	Gly	Cys	Leu	Ser	Ser	Val	Pro	Gln	Met	Lys	Lys	Ile	
1100					1105						1110				
tct	aca	tct	tac	gag	gaa	aga	cgg	aag	caa	gct	acc	gct	att	gtt	3384
Ser	Thr	Ser	Tyr	Glu	Glu	Arg	Arg	Lys	Gln	Ala	Thr	Ala	Ile	Val	
1115					1120						1125				
tta	ctt	gga	gta	ata	gga	gct	gaa	ttt	ggt	gct	gaa	att	gaa	cct	3429
Leu	Leu	Gly	Val	Ile	Gly	Ala	Glu	Phe	Gly	Ala	Glu	Ile	Glu	Pro	
1130					1135						1140				
cct	aaa	cta	ttg	acc	aga	cct	cga	agc	tct	agc	caa	att	cct	gag	3474
Pro	Lys	Leu	Leu	Thr	Arg	Pro	Arg	Ser	Ser	Ser	Gln	Ile	Pro	Glu	
1145					1150						1155				
gga	ttc	ggg	ttg	act	agt	ggt	gga	tcc	aac	tac	tcg	ctg	gcc	aga	3519
Gly	Phe	Gly	Leu	Thr	Ser	Gly	Gly	Ser	Asn	Tyr	Ser	Leu	Ala	Arg	
1160					1165						1170				
cat	act	tgc	aag	gca	ctg	acg	ttt	ctt	ctg	cta	cag	cct	cca	agc	3564
His	Thr	Cys	Lys	Ala	Leu	Thr	Phe	Leu	Leu	Leu	Gln	Pro	Pro	Ser	
1175					1180						1185				
ccc	aaa	ctt	cct	cca	cac	agc	act	atc	cga	aga	aca	gcc	att	gat	3609
Pro	Lys	Leu	Pro	Pro	His	Ser	Thr	Ile	Arg	Arg	Thr	Ala	Ile	Asp	
1190					1195						1200				
ctg	att	gga	cgt	ggg	ttc	act	gtt	tgg	gag	cct	tac	atg	gat	gtg	3654
Leu	Ile	Gly	Arg	Gly	Phe	Thr	Val	Trp	Glu	Pro	Tyr	Met	Asp	Val	
1205					1210						1215				
tcc	gct	gtt	ctg	atg	ggg	ctt	ctc	gaa	ctt	tgt	gcc	gat	gcc	gag	3699
Ser	Ala	Val	Leu	Met	Gly	Leu	Leu	Glu	Leu	Cys	Ala	Asp	Ala	Glu	

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aaa caa ctt gcc aac atc aca	atg ggg ttg cct ctg	agc cca gca	3744
Lys Gln Leu Ala Asn Ile Thr	Met Gly Leu Pro Leu	Ser Pro Ala	
1235	1240	1245	
gct gac tcg gcc cgc tct gcg	agg cat gcc ctc tcg	ctc att gcc	3789
Ala Asp Ser Ala Arg Ser Ala	Arg His Ala Leu Ser	Leu Ile Ala	
1250	1255	1260	
acc gcc aga cca ccc gcc ttc	atc acc acc ata gcc	aaa gag gta	3834
Thr Ala Arg Pro Pro Ala Phe	Ile Thr Thr Ile Ala	Lys Glu Val	
1265	1270	1275	
cac aga cat acg gct ctt gca	gca aat acc caa tca	cag cag aat	3879
His Arg His Thr Ala Leu Ala	Ala Asn Thr Gln Ser	Gln Gln Asn	
1280	1285	1290	
atg cac aca aca act ctt gca	cga gct aaa ggg gaa	att ttg aga	3924
Met His Thr Thr Thr Leu Ala	Arg Ala Lys Gly Glu	Ile Leu Arg	
1295	1300	1305	
gtc att gaa att ctt att gaa	aag atg ccc aca gat	gtt gtg gat	3969
Val Ile Glu Ile Leu Ile Glu	Lys Met Pro Thr Asp	Val Val Asp	
1310	1315	1320	
ctt ctc gtg gag gtt atg gac	atc att atg tac tgc	ctt gaa gga	4014
Leu Leu Val Glu Val Met Asp	Ile Ile Met Tyr Cys	Leu Glu Gly	
1325	1330	1335	
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Ser Leu Val Lys Lys Lys Gly	Leu Gln Glu Cys Phe	Pro Ala Ile	
1340	1345	1350	
tgc agg ttc tac atg gtc agc	tat tat gag cgg aat	cac aga ata	4104
Cys Arg Phe Tyr Met Val Ser	Tyr Tyr Glu Arg Asn	His Arg Ile	
1355	1360	1365	
gca gtt gga gct cgc cat ggt	tca gtg gcc ctg tac	gac atc cgg	4149
Ala Val Gly Ala Arg His Gly	Ser Val Ala Leu Tyr	Asp Ile Arg	
1370	1375	1380	
act gga aaa tgt cag aca atc	cat gga cac aag gga	cca atc act	4194
Thr Gly Lys Cys Gln Thr Ile	His Gly His Lys Gly	Pro Ile Thr	
1385	1390	1395	
gca gtg gct ttt gct cct gat	gga aga tat ctt gcc	acc tac tca	4239
Ala Val Ala Phe Ala Pro Asp	Gly Arg Tyr Leu Ala	Thr Tyr Ser	
1400	1405	1410	
aac act gac agc cac att tct	ttt tgg cag atg aac	acg tca ctg	4284
Asn Thr Asp Ser His Ile Ser	Phe Trp Gln Met Asn	Thr Ser Leu	
1415	1420	1425	
ctg gga agc atc ggc atg ctg	aac tcg gca cct cag	ctg cgc tgc	4329
Leu Gly Ser Ile Gly Met Leu	Asn Ser Ala Pro Gln	Leu Arg Cys	
1430	1435	1440	

att aaa	acc tac cag gtg ccc	cct gtg cag ccc gcg	tcc ccc ggc	4374
Ile Lys	Thr Tyr Gln Val Pro	Pro Val Gln Pro Ala	Ser Pro Gly	
1445	1450	1455		
tcc cac	aat gcc ctc aag ctg	gcc cgg ctc atc tgg	act tcc aac	4419
Ser His	Asn Ala Leu Lys Leu	Ala Arg Leu Ile Trp	Thr Ser Asn	
1460	1465	1470		
cgc aac	gtc atc ctc atg gcc	cat gac ggg aag gag	cac cgc ttc	4464
Arg Asn	Val Ile Leu Met Ala	His Asp Gly Lys Glu	His Arg Phe	
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atg gtc	taa			4473
Met Val				
1490				

<210> 2

<211> 1490

<212> PRT

<213> Homo sapiens

<400> 2

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Thr Ile Val Thr Gly Cys His Asp Gly Gln Ile Cys Leu Trp Asp Leu				
35	40	45		
Ser Val Glu Leu Gln Ile Asn Pro Arg Ala Leu Leu Phe Gly His Thr				
50	55	60		
Ala Ser Ile Thr Cys Leu Ser Lys Ala Cys Ala Ser Ser Asp Lys Gln				
65	70	75	80	
Tyr Ile Val Ser Ala Ser Glu Ser Gly Glu Met Cys Leu Trp Asp Val				
85	90	95		
Ser Asp Gly Arg Cys Ile Glu Phe Thr Lys Leu Ala Cys Thr His Thr				
100	105	110		
Gly Ile Gln Phe Tyr Gln Phe Ser Val Gly Asn Gln Arg Glu Gly Arg				
115	120	125		
Leu Leu Cys His Gly His Tyr Pro Glu Ile Leu Val Val Asp Ala Thr				
130	135	140		
Ser Leu Glu Val Leu Tyr Ser Leu Val Ser Lys Ile Ser Pro Asp Trp				
145	150	155	160	
Ile Ser Ser Met Ser Ile Ile Arg Ser His Arg Thr Gln Glu Asp Thr				
165	170	175		
Val Val Ala Leu Ser Val Thr Gly Ile Leu Lys Val Trp Ile Val Thr				
180	185	190		

Ser Glu Ile Ser Asp Met Gln Asp Thr Glu Pro Ile Phe Glu Glu Glu
 195 200 205
 Ser Lys Pro Ile Tyr Cys Gln Asn Cys Gln Ser Ile Ser Phe Cys Ala
 210 215 220
 Phe Thr Gln Arg Ser Leu Leu Val Val Cys Ser Lys Tyr Trp Arg Val
 225 230 235 240
 Phe Asp Ala Gly Asp Tyr Ser Leu Leu Cys Ser Gly Pro Ser Glu Asn
 245 250 255
 Gly Gln Thr Trp Thr Gly Gly Asp Phe Val Ser Ser Asp Lys Val Ile
 260 265 270
 Ile Trp Thr Glu Asn Gly Gln Ser Tyr Ile Tyr Lys Leu Pro Ala Ser
 275 280 285
 Cys Leu Pro Ala Ser Asp Ser Phe Arg Ser Asp Val Gly Lys Ala Val
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 Glu Asn Leu Ile Pro Pro Val Gln His Ile Leu Leu Asp Arg Lys Asp
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 Lys Glu Leu Leu Ile Cys Pro Pro Val Thr Arg Phe Phe Tyr Gly Cys
 325 330 335
 Arg Glu Tyr Phe His Lys Leu Leu Ile Gln Gly Asp Ser Ser Gly Arg
 340 345 350
 Leu Asn Ile Trp Asn Ile Ser Asp Thr Ala Asp Lys Gln Gly Ser Glu
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 Glu Gly Leu Ala Met Thr Thr Ser Ile Ser Leu Gln Glu Ala Phe Asp
 370 375 380
 Lys Leu Asn Pro Cys Pro Ala Gly Ile Ile Asp Gln Leu Ser Val Ile
 385 390 395 400
 Pro Asn Ser Asn Glu Pro Leu Lys Val Thr Ala Ser Val Tyr Ile Pro
 405 410 415
 Ala His Gly Arg Leu Val Cys Gly Arg Glu Asp Gly Ser Ile Val Ile
 420 425 430
 Val Pro Ala Thr Gln Thr Ala Ile Val Gln Leu Leu Gln Gly Glu His
 435 440 445
 Met Leu Arg Arg Gly Trp Pro Pro His Arg Thr Leu Arg Gly His Arg
 450 455 460
 Asn Lys Val Thr Cys Leu Leu Tyr Pro His Gln Val Ser Ala Arg Tyr
 465 470 475 480
 Asp Gln Arg Tyr Leu Ile Ser Gly Gly Val Asp Phe Ser Val Ile Ile
 485 490 495
 Trp Asp Ile Phe Ser Gly Glu Met Lys His Ile Phe Cys Val His Gly
 500 505 510
 Gly Glu Ile Thr Gln Leu Leu Val Pro Pro Glu Asn Cys Ser Ala Arg
 515 520 525
 Val Gln His Cys Ile Cys Ser Val Ala Ser Asp His Ser Val Gly Leu

530	535	540
Leu Ser Leu Arg Glu Lys Lys Cys Ile Met Leu Ala Ser Arg His Leu		
545	550	555
Phe Pro Ile Gln Val Ile Lys Trp Arg Pro Ser Asp Asp Tyr Leu Val		
565	570	575
Val Gly Cys Ser Asp Gly Ser Val Tyr Val Trp Gln Met Asp Thr Gly		
580	585	590
Ala Leu Asp Arg Cys Val Met Gly Ile Thr Ala Val Glu Ile Leu Asn		
595	600	605
Ala Cys Asp Glu Ala Val Pro Ala Ala Val Asp Ser Leu Ser His Pro		
610	615	620
Ala Val Asn Leu Lys Gln Ala Met Thr Arg Arg Ser Leu Ala Ala Leu		
625	630	635
Lys Asn Met Ala His His Lys Leu Gln Thr Leu Ala Thr Asn Leu Leu		
645	650	655
Ala Ser Glu Ala Ser Asp Lys Gly Asn Leu Pro Lys Tyr Ser His Asn		
660	665	670
Ser Leu Met Val Gln Ala Ile Lys Thr Asn Leu Thr Asp Pro Asp Ile		
675	680	685
His Val Leu Phe Phe Asp Val Glu Ala Leu Ile Ile Gln Leu Leu Thr		
690	695	700
Glu Glu Ala Ser Arg Pro Asn Thr Ala Leu Ile Ser Pro Glu Asn Leu		
705	710	715
Gln Lys Ala Ser Gly Ser Ser Asp Lys Gly Gly Ser Phe Leu Thr Gly		
725	730	735
Lys Arg Ala Ala Val Leu Phe Gln Gln Val Lys Glu Thr Ile Lys Glu		
740	745	750
Asn Ile Lys Glu His Leu Leu Asp Asp Glu Glu Glu Asp Glu Glu Ile		
755	760	765
Met Arg Gln Arg Arg Glu Glu Ser Asp Pro Glu Tyr Arg Ser Ser Lys		
770	775	780
Ser Lys Pro Leu Thr Leu Leu Glu Tyr Asn Leu Thr Met Asp Thr Ala		
785	790	795
Lys Leu Phe Met Ser Cys Leu His Ala Trp Gly Leu Asn Glu Val Leu		
805	810	815
Asp Glu Val Cys Leu Asp Arg Leu Gly Met Leu Lys Pro His Cys Thr		
820	825	830
Val Ser Phe Gly Leu Leu Ser Arg Gly Gly His Met Ser Leu Met Leu		
835	840	845
Pro Gly Tyr Asn Gln Pro Ala Cys Lys Leu Ser His Gly Lys Thr Glu		
850	855	860
Val Gly Arg Lys Leu Pro Ala Ser Glu Gly Val Gly Lys Gly Thr Tyr		
865	870	875
		880

Gly Val Ser Arg Ala Val Thr Thr Gln His Leu Leu Ser Ile Ile Ser
 885 890 895
 Leu Ala Asn Thr Leu Met Ser Met Thr Asn Ala Thr Phe Ile Gly Asp
 900 905 910
 His Met Lys Lys Gly Pro Thr Arg Pro Pro Arg Pro Ser Thr Pro Asp
 915 920 925
 Leu Ser Lys Ala Arg Gly Ser Pro Pro Thr Ser Ser Asn Ile Val Gln
 930 935 940
 Gly Gln Ile Lys Gln Val Ala Ala Pro Val Val Ser Ala Arg Ser Asp
 945 950 955 960
 Ala Asp His Ser Gly Ser Asp Pro Pro Ser Ala Pro Ala Leu His Thr
 965 970 975
 Cys Phe Leu Val Asn Glu Gly Trp Ser Gln Leu Ala Ala Met His Cys
 980 985 990
 Val Met Leu Pro Asp Leu Leu Gly Leu Asp Lys Phe Arg Pro Pro Leu
 995 1000 1005
 Leu Glu Met Leu Ala Arg Arg Trp Gln Asp Arg Cys Leu Glu Val Arg
 1010 1015 1020
 Glu Ala Ala Gln Ala Leu Leu Leu Ala Glu Leu Arg Arg Ile Glu Gln
 1025 1030 1035 1040
 Ala Gly Arg Lys Glu Ala Ile Asp Ala Trp Ala Pro Tyr Leu Pro Gln
 1045 1050 1055
 Tyr Ile Asp His Val Ile Ser Pro Gly Val Thr Ser Glu Ala Ala Gln
 1060 1065 1070
 Thr Ile Thr Thr Ala Pro Asp Ala Ser Gly Pro Glu Ala Lys Val Gln
 1075 1080 1085
 Glu Glu Glu His Asp Leu Val Asp Asp Asp Ile Thr Thr Gly Cys Leu
 1090 1095 1100
 Ser Ser Val Pro Gln Met Lys Lys Ile Ser Thr Ser Tyr Glu Glu Arg
 1105 1110 1115 1120
 Arg Lys Gln Ala Thr Ala Ile Val Leu Leu Gly Val Ile Gly Ala Glu
 1125 1130 1135
 Phe Gly Ala Glu Ile Glu Pro Pro Lys Leu Leu Thr Arg Pro Arg Ser
 1140 1145 1150
 Ser Ser Gln Ile Pro Glu Gly Phe Gly Leu Thr Ser Gly Gly Ser Asn
 1155 1160 1165
 Tyr Ser Leu Ala Arg His Thr Cys Lys Ala Leu Thr Phe Leu Leu Leu
 1170 1175 1180
 Gln Pro Pro Ser Pro Lys Leu Pro Pro His Ser Thr Ile Arg Arg Thr
 1185 1190 1195 1200
 Ala Ile Asp Leu Ile Gly Arg Gly Phe Thr Val Trp Glu Pro Tyr Met
 1205 1210 1215
 Asp Val Ser Ala Val Leu Met Gly Leu Leu Glu Leu Cys Ala Asp Ala

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Glu Lys Gln Leu Ala Asn Ile Thr Met Gly Leu Pro Leu Ser Pro Ala		
1235	1240	1245
Ala Asp Ser Ala Arg Ser Ala Arg His Ala Leu Ser Leu Ile Ala Thr		
1250	1255	1260
Ala Arg Pro Pro Ala Phe Ile Thr Thr Ile Ala Lys Glu Val His Arg		
1265	1270	1275
His Thr Ala Leu Ala Ala Asn Thr Gln Ser Gln Gln Asn Met His Thr		
1285	1290	1295
Thr Thr Leu Ala Arg Ala Lys Gly Glu Ile Leu Arg Val Ile Glu Ile		
1300	1305	1310
Leu Ile Glu Lys Met Pro Thr Asp Val Val Asp Leu Leu Val Glu Val		
1315	1320	1325
Met Asp Ile Ile Met Tyr Cys Leu Glu Gly Ser Leu Val Lys Lys Lys		
1330	1335	1340
Gly Leu Gln Glu Cys Phe Pro Ala Ile Cys Arg Phe Tyr Met Val Ser		
1345	1350	1355
Tyr Tyr Glu Arg Asn His Arg Ile Ala Val Gly Ala Arg His Gly Ser		
1365	1370	1375
Val Ala Leu Tyr Asp Ile Arg Thr Gly Lys Cys Gln Thr Ile His Gly		
1380	1385	1390
His Lys Gly Pro Ile Thr Ala Val Ala Phe Ala Pro Asp Gly Arg Tyr		
1395	1400	1405
Leu Ala Thr Tyr Ser Asn Thr Asp Ser His Ile Ser Phe Trp Gln Met		
1410	1415	1420
Asn Thr Ser Leu Leu Gly Ser Ile Gly Met Leu Asn Ser Ala Pro Gln		
1425	1430	1435
Leu Arg Cys Ile Lys Thr Tyr Gln Val Pro Pro Val Gln Pro Ala Ser		
1445	1450	1455
Pro Gly Ser His Asn Ala Leu Lys Leu Ala Arg Leu Ile Trp Thr Ser		
1460	1465	1470
Asn Arg Asn Val Ile Leu Met Ala His Asp Gly Lys Glu His Arg Phe		
1475	1480	1485
Met Val		
1490		

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30